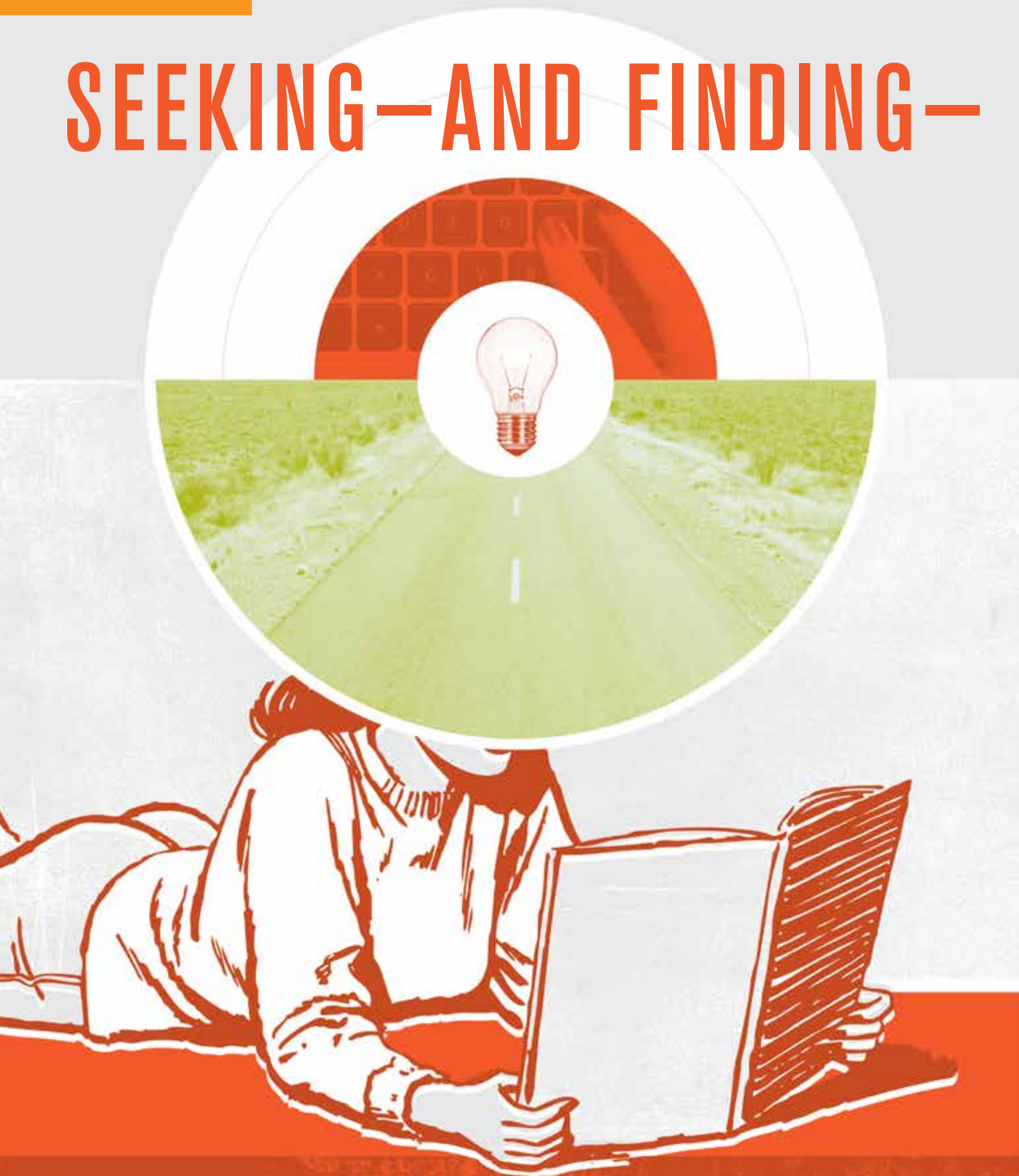


## FEATURE

# SEEKING—AND FINDING—



# Authentic Inquiry Models for Our Evolving Information Landscape

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## Introduction

Information literacy instruction continuously adapts to changes in the information environment, whether those changes are small and focused on a regularly used tool or much broader in scope. School librarians in all settings are adept at adjusting to modifications, whether they result from new or evolving resources or the differing needs of the teachers and faculty members the librarians work with.

What is harder to conceive of and implement are more radical, overarching shifts. These transformations go far beyond introducing new and revised tools or even teaching increasingly sophisticated ways to interact with information. We will address two such shifts in this article: metaliteracy and threshold concepts. Both assert new lenses for defining information literacy and guiding student learning.

## What Is Metaliteracy?

The changes in our information landscape have been dramatic since 1989 when ALA's *Presidential Committee on Information Literacy: Final Report* called for a restructured learning environment that would "actively engage students in the process of:

- knowing when they have a need for information
- identifying information needed to address a given problem or issue
- finding needed information and evaluating the information
- organizing the information
- using the information effectively to address the problem or issue at hand."

While this rallying call still applies, a range of new roles and responsibilities for learners have been made possible by Web 2.0 tools, social media, and the opportunities they have brought to learning. These opportunities include the ease not only of accessing information but also of creating it and doing so in new collaborative spaces. This enriched, but often overwhelming, environment is better navigated by learners who are willing to reflect critically about their interactions

with and in it. The concept of "metaliteracy" was developed in connection with these new roles, responsibilities, and opportunities.

In *Metaliteracy: Reinventing Information Literacy to Empower Learners*, Thomas P. Mackey and I (Trudi) describe the scope of metaliteracy thusly, "The metaliterate individual has the capability to adapt to changing technologies and learning environments, while combining and understanding relationships among related literacies. This requires a high level of critical thinking and analysis about how we develop our self-conception of information literacy as metacognitive learners in open and social media environments" (2014, 2).

Proponents of metaliteracy conceive of information literacy as an overarching literacy, transcending any particular literacy—digital, visual, and media, for example—and identify key components necessary to critically engage with information. Individuals must see themselves as creators of information, as well as consumers. Participation and collaboration in the production

of information has been made possible with the rise of social media. And metaliterate learners are metacognitive; they think about their thinking as they engage in information-related activities.

Our students are, for the most part, heavily engaged in using social media. But they do not connect that activity to the world of information. When they are asked if they create information beyond that required for school assignments, they often say, “No,” and are surprised when their activities on Facebook, Pinterest, or Tumblr are considered information generating.

## Metaliteracy in Practice: The College Level

The Metaliteracy Learning Collaborative (MLC), made up of current and former State University of New York librarians (including both authors), faculty members, and instructional designers, has been working to enrich the original conception of metaliteracy. The collaborative has developed learning goals and objectives that have similarities with longer standing definitions of information literacy, but which amplify collaborative, participatory, and metacognitive elements (see <http://metaliteracy.org/learning-objectives>). The four learning goals articulated by the MLC are:

1. Evaluate content critically, including dynamic, online content that changes and evolves, such as article preprints, blogs, and wikis;
2. Understand personal privacy, information ethics, and intellectual property issues in changing technology environments;

3. Share information and collaborate in a variety of participatory environments;
4. Demonstrate ability to connect learning and research strategies with lifelong learning processes and personal, academic, and professional goals.

The supporting objectives delve more deeply into the behavioral, cognitive, metacognitive, and affective components of these larger goals. For example, one of the learning objectives for goal 3 is:

Produce original content appropriate to specific needs in multiple media formats; transfer knowledge gained to new formats in unpredictable and evolving environments.

While flagged as a behavioral objective, it also presupposes that the learner has the agility to translate knowledge from one format or type of expressive technology to another (cognitive), has reflected on the need for the new expression and whether it will enhance what he or she has already done (also cognitive), and is able to make the translation to an environment possibly being encountered for the very first time (affective). The learner would also be reflecting on the hurdles and successes of this process and recognizing what components will be helpful the next time the learner engages in the process (metacognitive) and might also be reflecting on the collaborative process if the goal was reached working with others.

While I (Trudi) am unable to speak for all my peers, when teaching information literacy I see the need for an increasing

emphasis on elements encompassed by metaliteracy. A connectivist metaliteracy MOOC was offered in fall 2013 (and is still available at <http://metaliteracy.cdlprojects.com>), and two conferences in the summer of 2014 included “metaliteracy” in their titles.

In my one-credit Information Literacy course, I challenge students’ metaliteracy abilities in two ways: one is team-based, and the second is an individual effort. The team-based project is to create a website that serves as a resource guide for the team’s topic (though without teaching them how to develop a website, as this is meant as a confidence-building activity). Before starting the project, I ask students if they are information producers (beyond course assignments), and very few say, “Yes.” A discussion about Facebook or other social media sites frees them from this limiting view of information creation, but they still often have qualms about the assigned project: creating an online research guide on their team’s topic. Working with teammates helps; together, they are generally able to figure out how to accomplish whatever they would like to do.

A second assignment, done individually, causes more angst. Here’s the assignment:

Use a Web-based social media tool such as Glogster, Voki, Go Animate, Timetoast, or another tool of your choice to enhance the information your team has found on its topic....Be creative yet informative in creating a new information source. Present something new, fill in gaps, comment, analyze. Do not rehash.

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In this case, students are working alone and must decide what they have to say, an activity that feels alien. I can almost hear students asking themselves: Who am I to participate in the conversation on this topic? And how do I use these tools? The assignment really is challenging. However, when I ask them at the end of the course to reflect on how they feel upon completing this assignment, they express a sense of empowerment—even wonder—that they did it.

## Threshold Concepts, Metaliteracy, and the New ACRL Information Literacy Framework

The information environment was very different in 1999 when the ACRL (Association of College and Research Libraries) *Information Literacy Competency Standards for Higher Education* were drafted. These standards, implemented early the next year, were meant for a

world in which information access was more predictable than it is now. Publication was primarily by established publishers; students mostly consumed rather than created information, and the constantly changing social media environment didn't exist as it does today. At the time, a skills-based approach relying primarily on the cognitive domain made sense. However, as the sources of information have grown exponentially, learners take on a variety of roles, and a skills-based approach falls short of today's students' needs. ACRL's proposed draft *Framework for Information Literacy for Higher Education*<sup>1</sup> addresses new roles, new types of information, and multiple domains: metacognitive, affective, and behavioral, as well as cognitive.

Threshold concepts, those concepts critical for understanding a particular discipline, provide a foundation for the framework.<sup>2</sup>

Jan H. F. Meyer and Ray Land have posited five characteristics of threshold concepts: transformative, troublesome, irreversible, integrative, and bounded. They have stated, "as students acquire threshold concepts, and extend their use of language in relation to these concepts, there occurs also a shift in the learner's subjectivity, a repositioning of the self" (2005, 374).

The ACRL framework is built on six frames, each of which includes a threshold concept, a brief and a more expansive description of the concept, knowledge practices, and dispositions. The shift from a set of standards to a conceptual model is dramatic but is designed to help students master key ideas that allow them to situate themselves more effectively in the information ecosystem.

Included in the framework is a new (draft) definition of information

<sup>1</sup> While at the time of this writing (August 2014) the new framework has not yet been submitted for approval by the ACRL Board, it is in a second draft <<http://acrl.ala.org/ilstandards/wp-content/uploads/2014/02/Framework-for-IL-for-HE-Draft-2.pdf>>.

<sup>2</sup> The ACRL Task Force responsible for this framework has drawn upon an ongoing Delphi study that has identified several threshold concepts in information literacy but has molded the framework with its own ideas and emphases for the threshold concepts.

The Delphi study is being conducted by L. Townsend, A. Hofer, S. Lu, and K. Brunetti. See also: Lori Townsend, Amy Hofer, and Korey Brunetti, 2011, "Threshold Concepts and Information Literacy," *Portal: Libraries and the Academy* 11 (3): 853–69.



## Metaliteracy

### learning objectives

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literacy, informed by the concept of metaliteracy:

*Information literacy is a repertoire of understandings, practices, and dispositions focused on flexible engagement with the information ecosystem, underpinned by critical self-reflection. The repertoire involves finding, evaluating, interpreting, managing, and using information to answer questions and develop new ones; and creating new knowledge through ethical participation in communities of learning, scholarship, and practice.* [italics added for emphasis]

One of the six frames under discussion is Scholarship is a Conversation, and metaliteracy is reflected in its knowledge practices (abilities) and dispositions, as it is in the other frames. As an example, here is an excerpt from within Scholarship is a Conversation knowledge practices:

Learners who are developing their information-literate abilities:

- Contribute to scholarly conversation at an appropriate level (local online community, guided discussion, undergraduate research journal, conference presentation/poster session).
- Critically evaluate contributions made by others in participatory information environments.

Similarly, the dispositions for this frame include:

- Value user-generated content and critically evaluate contributions made by others.
- See themselves as contributors to scholarship rather than only consumers of it.

- Understand the responsibility that comes with entering the conversation through participatory channels.

### Implications for High School Library Practice

As the Metaliteracy and Threshold Concepts models of information literacy continue to gain ground in higher education—particularly should they be adopted by ACRL—those of us in the K–12 world might ask what, if any, impact these models will have on our library practice. Since the school-based author's experience is limited to the high school setting, I (Emer) will speak to that.

One of the teams participating in the Metaliteracy Learning Collaborative mentioned above included secondary librarians. This team was curious to see what the new metaliteracy learning objectives might mean for high school students. With three of metaliteracy's key elements in mind—information creation, collaboration, and metacognition—we examined the metaliteracy learning objectives vis-à-vis the Common Core State Standards and New York State's Information Fluency Continuum (IFC) and found many correlations. This correlation can be seen, for example, in metaliteracy Learning Goal 3 and its supporting objectives.

Goal 3: Share information and collaborate in a variety of participatory environments

3. Compare the unique attributes of different information formats (e.g., scholarly article, blog, wiki, online community), and have the ability to use effectively and

to cite information for the development of original content

7. Produce original content appropriate to specific needs in multiple media formats; transfer knowledge gained to new formats...

School librarians already put into practice, many similar goals in the Common Core State Standards:

CCSS.ELA-Literacy.RI.II-12.7: Integrate and evaluate multiple sources of information presented in different media or formats...

CCSS.ELA-Literacy.W.II-12.4: Produce clear and coherent writing in which the development, organization and style are appropriate to task, purpose, and audience.

CCSS.ELA-Literacy.W.II-12.6: Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

In my library classroom, I (Emer) address different learning needs, abilities, and interests by helping students access a variety of resources (print, audio, visual), as well as supplementary titles (fiction and nonfiction). Since adoption of the CCSS with their emphasis on research, writing, and expression, I am much more involved in research as a process than I was in the past. Therefore, I include targeted heuristics for guidance (IFC worksheets, for example). Almost all library instruction is constructed around research questions (as opposed to one-shot bibliographic instruction common at college), so I can support the process all along the way.

With regard to collaboration, much classroom work remains individual work. Even when students work in teams, it's not always a truly collaborative effort—more like “divide and conquer”—although this approach is changing as more teachers use tools like Google Docs, Tumblr, and blogs. Our students know how to collaborate and how to create information in an online environment; they have no trouble navigating the Web 2.0 world or moving on to the next new thing. But a disconnect remains, as Trudi notes above; they don't seem to recognize that these are transferrable skills between media, as well as setting (social to academic).

Metacognition, the third major emphasis of metaliteracy, is illustrated in Goal 4 and associated objectives:

Goal 4: Demonstrate ability to connect learning and research strategies with lifelong learning processes...

4. Use self-reflection to assess one's own learning and knowledge of the learning process
5. Demonstrate the ability to think critically in context and to transfer critical thinking to new learning


I have used IFC assessments with students, and even if learners haven't met all the above-mentioned goals and objectives, it is always interesting to see students stop and actually think about what they are doing and why, and how they might be able to use what they have learned in a new assignment.

As school librarians our ultimate goal is to help students become

college and career ready. Through collaboration with subject area teachers, we seek to create authentic learning experiences by using the best resources available and going deep into inquiry. We integrate technology where possible, using a variety of resources and suggesting presentation tools. Time permitting, we ask students to self-assess. But putting it all together can be tricky.

In spite of the imperative from all quarters to use technology and Web tools to create, share, and collaborate, teachers are often just not able to do so—and not necessarily because they are less digitally “literate” than their students or because teachers don't know *how* to make the shift. (There's no lack of literature and





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ideas available.) Nothing happens in a vacuum; nothing happens without reference to the reality on the ground, and in public education that reality can run the gamut: from open computer access and sufficient bandwidth to restrictive school computer use policies and security systems. Continuing budget cuts that impact staffing, resources, and professional development only complicate things. But, as access improves for everyone, we will move even more to online learning resources: e-text books, MOOCs (massive open online courses), OERs (open educational resources). Metaliteracy learning objectives speak to this ever-changing information environment, providing a model for creating learners who are adaptable and self-aware, as well as effective information users and producers.

Even as technology continues to evolve, and the information landscape continues to change, the ability to read—which is at the heart of the Common Core—remains *the* priority. This focus is exemplified by the emphasis on building content knowledge (and vocabulary) through reading increasingly complex informational texts. And our technology-driven world has created some real challenges with this:

We now have to read across electronic platforms, apply previous knowledge to new applications, broaden our scope of reading to include critical evaluation for credibility, and apply rules of decoding and encoding to new content platforms, such as video, Skype, logging and online discussions to become productive members of society. (Jaeger 2011, 44)

Still, once students *get* it—that reading is the key to everything else—they can really move forward, regardless of format, modality, and platform, and truly become college and career ready.

ACRL's proposed draft Framework for Information Literacy for Higher Education, as discussed above, will resonate with school librarians, especially those in high schools. The Metaliteracy and Threshold Concepts models of information literacy both play vital roles. Teaching to threshold concepts will help our students move beyond disconnected skills that become dated as resources and applications change and toward a genuine understanding of information and its generation, as well as their own roles in the process.

What might be surprising to school librarians is the part AASL's *Standards for the 21st-Century Learner* played in the development of the ACRL framework. The AASL standards contain language school librarians are intimately familiar with. Before the advent of Common Core, we used AASL's inquiry-based research standards to direct instruction and best practices, encouraging students to "inquire, think critically, and gain knowledge ... apply knowledge to new situations, and create new knowledge" (2007, 4, 5) and share that knowledge ethically in a participatory world. Each standard came with a set of skills, dispositions, and self-assessment strategies. By including these standards in its new framework, ACRL recognizes the importance of the continuum of learning from K–12 to post-secondary education.

## Conclusion

In the end, the most important attribute to have today is the ability to learn. This capacity is as important for educators as it is for our students. The world is

changing so quickly, we don't know *what* will be available next year, never mind in ten! Being reflective, adaptable, self-empowered learners will only enhance one's ability to succeed in this exciting but,

perhaps, daunting future. If we are to prepare our students to become this type of learner, using models that stress authentic inquiry by engaged individuals will make a critical difference.



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